

REMARKS

A. Introduction

Claims 1, 4, 14-18 and 22-32 are pending and under consideration. Claims 2, 3, 5-14, and 19-21 were previously cancelled.

In the Office Action of June 23, 2008 ("the Office Action"), claims 1, 4, 14-18, and 22-32 were rejected as obvious. Moreover, claims 1, 4, 14-18 and 22-32 were rejected as indefinite.

In response and without conceding to the merits of the rejections, claims 1 and 4 have been amended to clarify an aspect of the present general inventive concept, and claim 22 has been slightly amended to address an informality issue. No new matter has been introduced.

B. Rejection under 35 USC §112

Claims 1, 4, 15-18, and 22-32 have been rejected under 35 USC 112 as being indefinite.

Regarding independent claims 1 and 4, the Examiner alleges the language "a sintered mesophase carbon material... and a conductive agent" renders the claim indefinite because there is no support for this language in the Specification. Claims 15-18 and 22-32 were rejected as indefinite for depending from allegedly indefinite independent claims 1 and 4. Claim 22 was also rejected as indefinite for containing an informality.

In response, the issues pointed out by the Examiner have been addressed. Accordingly, reconsideration and withdrawal of these rejections are requested.

C. Rejection under 35 USC §103

Claims 1, 4, 14-19, and 22-32 have been rejected under 35 U.S.C. §103(a) as being unpatentable over JP10-312789 to Inamasu ("Inamasu"). Applicant traverses these rejections for at least the following reasons.

Applicant notes that the rejections contained in the present Office Action are identical to the previous rejections contained in the previous Office Action. Notably, several claims were amended to recite additional limitations after the previous Office Action. For instance, independent claim 1 was amended to recite, *inter alia*, "a binderless anode comprising: a sintered mesophase carbon material prepared by sintering a mesophase carbon material, said sintered mesophase carbon material being capable of doping/dedoping lithium." The rejection

of independent claim 1 fails to address these additional limitations. **As such, it is clear that these additional limitations have gone unexamined.**

Inamasu, the reference relied on to reject independent claims 1 and 4 fail to disclose, *inter alia*, "sintered mesophase carbon material," as recited by independent claims 1 and 4. The present general inventive concept discloses that the combination of a cathode comprising $\text{Li}_x\text{Fe}_y\text{PO}_4$ with an anode comprising anode active material of mesophase carbon with no binders yields a high discharge volume. The benefit is distinct from the art of record because it cannot be obtained by merely changing LiCoO_2 into $\text{Li}_x\text{Fe}_y\text{PO}_4$ using sintered mesophase carbon. Likewise, it is also impossible to obtain this benefit by merely changing an anode into a binderless anode with sintered carbon from an anode with a binder and sintered mesophase carbon using $\text{Li}_x\text{Fe}_y\text{PO}_4$. Because the cited art does not disclose or suggest combining $\text{Li}_x\text{Fe}_y\text{PO}_4$ and a binderless anode with a sintered mesophase carbon, the cited art fails to disclose or suggest combining a cathode active material and an anode active material to effect a discharge volume. Still further, none of the prior art of record discloses or suggests combining a cathode active material of $\text{Li}_x\text{Fe}_y\text{PO}_4$ and an anode active material of sintered mesophase carbon to effect a discharge volume. Accordingly, the present general inventive concept is patentably distinct from the art of record.

As pointed out in Applicant's previous response, the Examiner's 103 rejection using Inamasu is improper. The Examiner acknowledges that Inamasu is deficient in that Inamasu does not disclose a negative electrode having a binderless sintered carbon material. See the Office Action, page 4. In attempt to remedy this deficiency, the Examiner forwards the following arguments. First, the Examiner, having acknowledged that Inamasu discloses the use of a binder, argues that Inamasu does not absolutely require the binder. The Examiner argues that because Inamasu uses the phrase "can be added," and due to the word "can," one of ordinary skill in the art would somehow be motivated to not include the binder. Second, the Examiner argues that if a binder was not used, one would somehow be motivated to select a sintered carbonaceous material because sintered carbonaceous material are "generally formed without the use of a binder." *Id.* Both of these leaps in logic, however, are wholly unsupported within the body of the rejection.

Inamasu provides specific motivation to use a binder. In particular, Inamasu states that

“a binder...can be added as a mixture” and provides detailed use and benefits of the binder. See 0013-0014. Even though Inamasu uses the phrase “a binder...can be added as a mixture,” Inamasu uses a binder and goes to great lengths to discuss the use and benefits of the binder. *Id.* Further, Inamasu fails to illustrate how to avoid using a binder and does not otherwise disclose or suggest any benefits of not using a binder. The Examiner’s entire argument that Inamasu teaches not using a binder surrounds Inamasu’s use of the word “can.” Applicant submits that it is improper to construe the word “can” so as to support an argument that the opposite of “can” is taught by a reference, especially when no such use is taught. Any contrary interpretation is wholly unsupported and is simply not a fair extension of the reference.

Applicant previously pointed out these discrepancies to the Examiner. In response, the Examiner attempts to provide support for the 103 rejection by pointing to an additional reference within the Examiner’s Response to Arguments. Clearly, this mode of rejection is contrary to the MPEP and Applicant objects to the new grounds of rejection. Specifically, the Examiner argues:

Moriguchi US 6,576,369 teaches ‘in general, a graphite powder is applied to a metal base serving as a collector with the aid of a suitable binder and is shaped thereon. Alternatively, a sintered electrode may be produced from graphite powder without use of a binder (15:31-38).

See the Office Action, page 5. Aside from the fact that this reference is improperly referenced, it also does not teach the subject matter that the Examiner argues it does. Moriguchi merely observes that a sintered electrode may be produced from graphite powder without use of a binder. Notably, this Moriguchi observation occurs right after Moriguchi advocates the use of a binder to aid in the application of a graphite powder to a metal base serving as a collector. Similar to Inamasu, the mere observation that a condition might occur or something can be done cannot reasonably provide any motivation to do such. Consequently, the applications of both Moriguchi and Inamasu are flawed.

Inamasu is also not combineable with the other references of record without destroying the intended purpose of Inamasu. Specifically, Inamasu illustrates an anode active material comprising a carbon material that is powdered *after* it is sintered. Consequently, is impossible for the carbon body to form a single body *without a binder* as argued by the Examiner. Because Inamasu cannot be combined with the art of record without destroying its intended purpose, the combination of Inamasu with the art of record is fatally flawed. *In re*

Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (References are not properly combinable or modifiable if their intended function is destroyed).

The art of record teaches the opposite of what is claimed by the present general inventive concept and the Examiner's motivation is grossly deficient. Consequently, it is clear that the Examiner is employing impermissible hindsight.

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986). (Emphasis added).

Accordingly, because the art of record fails to disclose or suggest the present general inventive concept as claimed, the rejection of independent claims 1 and 4 under 35 U.S.C. §103(a) is improper, and withdrawal of these rejections and allowance of these claims are earnestly solicited. Likewise, claims 14-19 and 22-32 depend from independent claims 1 and 4 and thus include all of the limitations of independent claims 1 and 4. Accordingly, dependent claims 14-19 and 22-32 are patentable over the art of record for at least the same reasons discussed above with respect to claims 1 and 4. Thus, withdrawal of these rejections and allowance of these claims are respectfully requested.

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D. Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 19-3140.

Respectfully submitted,
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